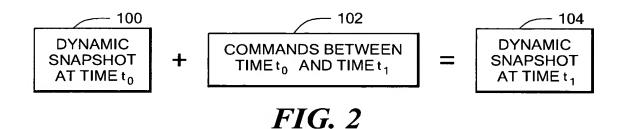SYSTEM AND METHOD FOR ASYNCHRONOUS STORAGE AND PLAYBACK OF A SYSTEM STATE
Jean-Marie R. Dautelle
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FIG. 1

System and Method for Asynchronous Storage and Playback of A System State
Jean-Marie R. Dautelle
Application No. 10/617,603

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100

DYNAMIC
SNAPSHOT
AT TIME t_0

$+$

102

COMMANDS BETWEEN
TIME t_0 AND TIME t_1

$=$

104

DYNAMIC
SNAPSHOT
AT TIME t_1

FIG. 2

COMMAND M

● ● ●

COMMAND N + 2

COMMAND N + 1

124

COMMAND
STACK

DYNAMIC
SNAPSHOT
RECORD
TIME

120

COMMAND
QUEUE

COMMAND N

COMMAND N - 1

COMMAND N - 2

● ● ●

COMMAND 3

COMMAND 2

COMMAND 1

122

DYNAMIC
SNAPSHOT

FIG. 3

SYSTEM AND METHOD FOR ASYNCHRONOUS STORAGE AND PLAYBACK OF A SYSTEM STATE
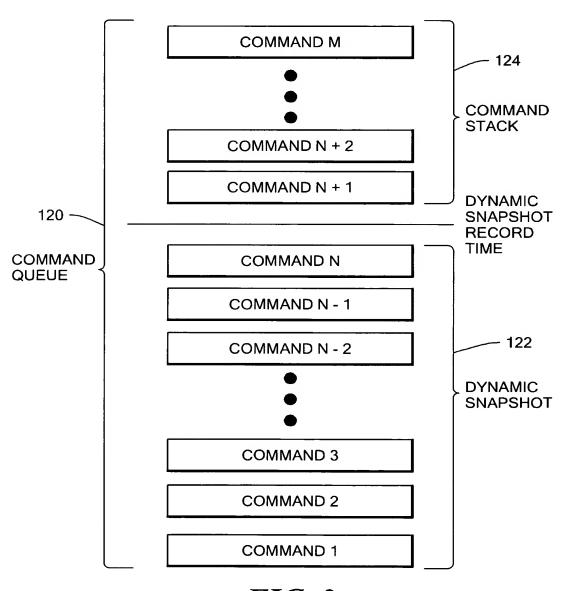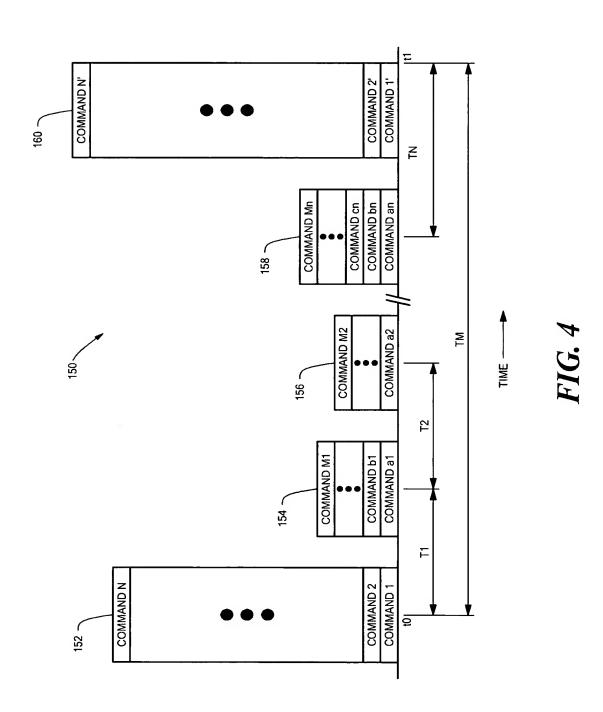Jean-Marie R. Dautelle
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FIG. 4

SYSTEM AND METHOD FOR ASYNCHRONOUS STORAGE AND PLAYBACK OF A SYSTEM STATE
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BEGIN

SELECT RECORD POINT — 202

RECORD FIRST SET OF COMMANDS IN COMMAND QUEUE — 204

ELIMINATE OVERRIDING COMMANDS FROM COMMAND QUEUE — 206

STORE FIRST DYNAMIC SNAPSHOT AT FIRST TIME — 208

200 —▶

220 — RECORD ADDITIONAL DISPLAY COMMANDS TO DISPLAY COMMAND INTERFACE

RECORD ADDITIONAL DISPLAY COMMANDS TO COMMAND STACK — 210

ELAPSED TIME=T1 ? — 222   N

ELAPSED TIME=TM ? — 212   N

STORE ADDITIONAL DISPLAY COMMANDS — 224   Y

ELIMINATE OVERRIDING COMMANDS FROM COMMAND QUEUE — 214   Y

END RECORD ? — 226   N   Y

STORE DYNAMIC SNAPSHOT — 216

END RECORD ? — 218   N   Y

END

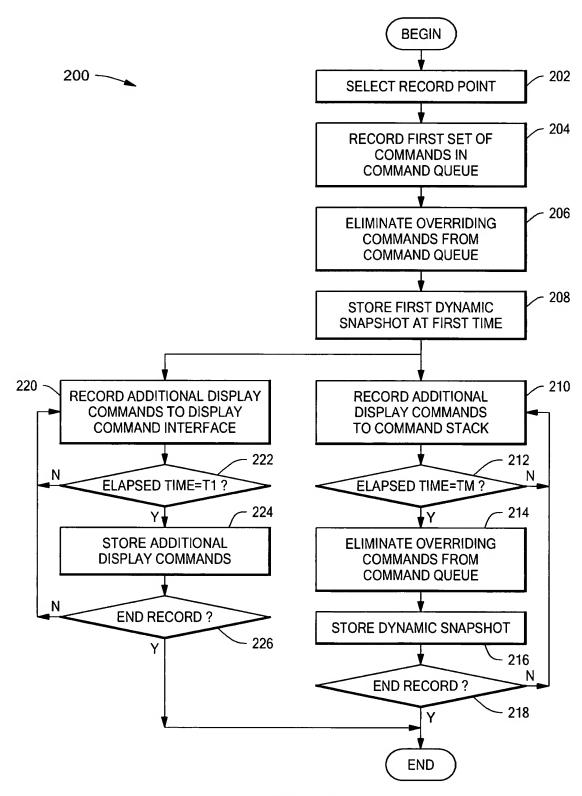*FIG. 5*

SYSTEM AND METHOD FOR ASYNCHRONOUS STORAGE AND PLAYBACK OF A SYSTEM STATE
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250 →

BEGIN

IDENTIFY OVERRIDING DISPLAY COMMANDS — 252

IDENTIFY REDUNDANT DISPLAY COMMANDS — 254

IDENTIFY SUPERFLUOUS DISPLAY COMMANDS — 256

REMOVE OVERRIDING, REDUNDANT AND SUPERFLUOUS DISPLAY COMMANDS FROM COMMAND QUEUE — 258

KEEP ALL REMAINING DISPLAY COMMANDS IN COMMAND QUEUE IN THE SAME ORDER — 260

ADD NEW DISPLAY COMMANDS TO COMMAND QUEUE IN ORDER — 262

END

FIG. 6

SYSTEM AND METHOD FOR ASYNCHRONOUS STORAGE AND PLAYBACK OF A SYSTEM STATE
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300

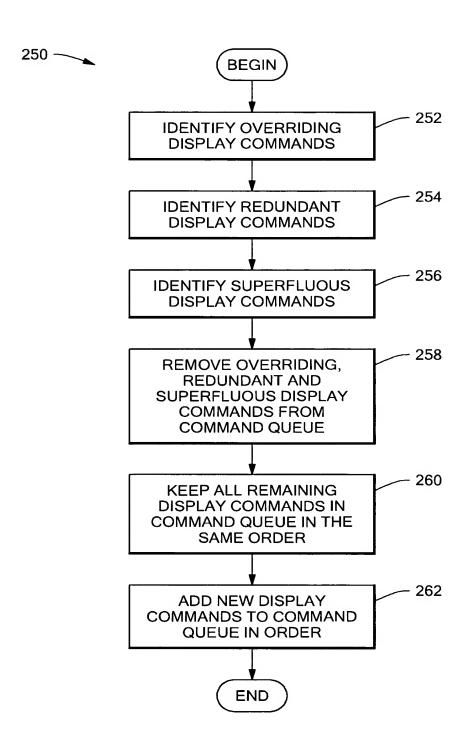(BEGIN)

RECEIVE PLAYBACK
REQUEST INCLUDING
TIME OF INTEREST — 302

RETRIEVE DYNAMIC
SNAPSHOT — 304

RETRIEVE SELECTED ONES
OF ONE OR MORE SETS
OF DISPLAY COMMANDS — 306

APPEND SELECTED ONES
OF THE ONE OR MORE SETS
OF DISPLAY COMMANDS TO
DYNAMIC SNAPSOT TO
PROVIDE INTERMEDIATE
DYNAMIC SNAPSHOT — 308

GENERATE DISPLAY
ASSOCIATED WITH
INTERMEDIATE SNAPSHOT — 310

(END)

FIG. 7

System and Method for Asynchronous Storage and Playback of A System State
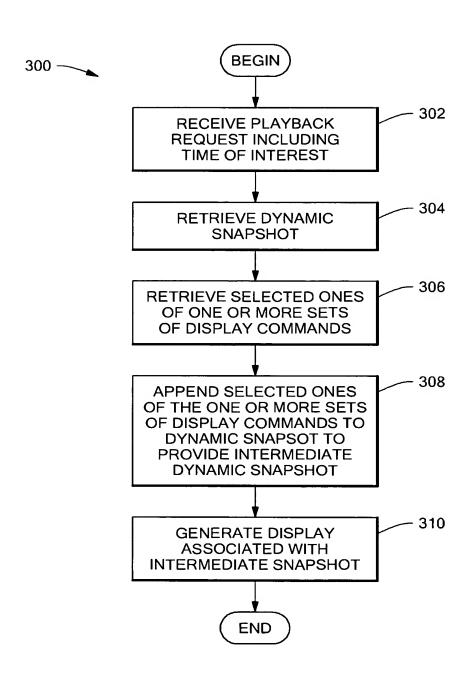Jean-Marie R. Dautelle
Application No. 10/617,603

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350

BEGIN

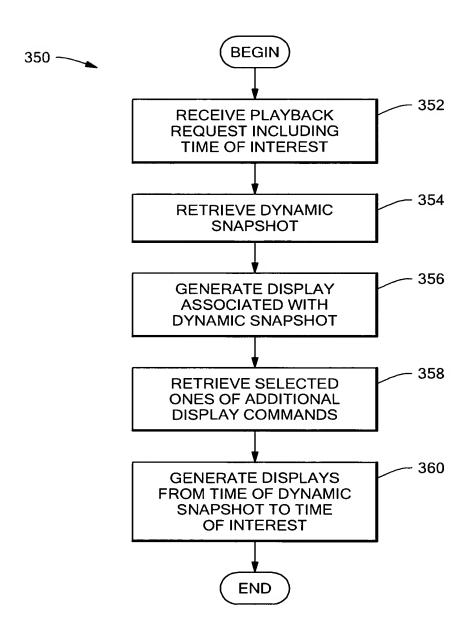RECEIVE PLAYBACK
REQUEST INCLUDING
TIME OF INTEREST — 352

RETRIEVE DYNAMIC
SNAPSHOT — 354

GENERATE DISPLAY
ASSOCIATED WITH
DYNAMIC SNAPSHOT — 356

RETRIEVE SELECTED
ONES OF ADDITIONAL
DISPLAY COMMANDS — 358

GENERATE DISPLAYS
FROM TIME OF DYNAMIC
SNAPSHOT TO TIME
OF INTEREST — 360

END

FIG. 8